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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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NOVAK DRUCE & QUIGG, LLP 1300 EYE STREET NW SUITE 400 EAST TOWER WASHINGTON, DC 20005			GREENE, JASON M	
			ART UNIT	PAPER NUMBER
			1724	

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/710,969	JOBSON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jason M. Greene	1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-12, 15 and 22-32 is/are rejected.
- 7) Claim(s) 13,14 and 16-21 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 15 August 2004 is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/15/04;3/7/05.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

**DETAILED ACTION*****Priority***

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Sweden on 15 February 2002. It is noted, however, that applicant has not filed a certified copy of the 0200453-9 application as required by 35 U.S.C. 119(b). Specifically, while a certified copy of Swedish Application 0200452-1 was filed on 07 March 2005, Applicants have not filed a certified copy of the application on which priority is claimed.

***Drawings***

2. The drawings are objected to under 37 CFR 1.84(g) because sheets 1-5 and 7 contain frames around the sights. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to

show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claims***

3. Applicants are reminded that while reference characters are permitted in the claims, the claim language must be capable of standing independent of the reference characters.
4. With regard to claim 16, the Examiner suggests Applicants rewrite parenthetical reference character "(L 1a)" as "(18a)" to correct an apparent typographical error.
5. With regard to claim 19, the Examiner suggests Applicants rewrite the words "entering" and "exiting" in lines 4 and 5, respectively, as the words "enters" and "exits" to correct minor grammatical informalities and to improve the readability of the claim language.

***Claim Objections***

6. Claims 29 and 30 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 29 recites the body preferably being substantially made out of a ceramic material in lines 2-3. However, claim 3, from which claim 29 depends, already recites the body being substantially made out of a ceramic material. Since claim 29 uses the term "preferably", the claim is seen as broadening the limitation recited in claim 3 regarding the material used to form the body. The Examiner suggests Applicants delete the phrase "preferably the body (3) is substantially made out of a ceramic material" in lines 2-3 of claim 29.

Claim 30 recites the body being substantially made out of a ceramic material in lines 1-2. However, claim 3, from which claim 30 indirectly depends, already recites an identical limitation.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 15, 25, 27 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claim 15 recites the limitation "the wall structure" in line 1. There is insufficient antecedent basis for this limitation in the claim. Additionally, claim 15 also recites the device having third channels in line 2, but the claim does not recite the device having first or second channels. It appears as though claim 15 was intended to be dependent from claim 13 instead of claim 12. For Examination purposes, claim 15 has been treated as though it depends from claim 13. If this treatment is correct, the Examiner suggests Applicants amend the claim accordingly.

10. Regarding claims 15, 27 and 29, the phrase "preferably" renders the claims indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Specifically, with regard to claim 15, the term "preferably" in line 2 renders the claim indefinite since it is unclear if the third channels have to be formed between the second channels using common walls. With regard to claim 27, the term "preferably" renders the claim indefinite since it is unclear if the device is adapted to purify exhaust gas from internal combustion engines in only mobile applications. With regard to claim 29, the term "preferably" in line 2 renders the claim indefinite since it is not clear if the body has to be made out of a ceramic material.

11. Regarding claim 25, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Specifically, the phrase "such as" in lines 3 and 5 renders the claim indefinite since it is not clear if the oxidizing species is limited to air or if the oxidizable species is limited to hydrocarbons.

***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 1, 2, 4-7, 22, 27, 28, 31 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Maus et al.

With regard to claim 1, Maus et al. discloses a device for treatment of a gas flow, said device comprising at least one body (not numbered, formed by

sections A, B and C) configured to cause a conversion in the composition of a gas flow (using catalysts), said body having a modular construction comprising a plurality of sections (A,B,C), each with different internal structures that allow gas to flow therethrough, said sections being arranged so that at least a portion of the gas flows through at least two sections with different internal structures during operation of the device in Figs. 1-6, col. 2, lines 32-42 and col. 6, line 1 to col. 7, line 14.

With regard to claims 2 and 28, Maus et al. discloses a plurality of the sections (A,B,C) exhibiting a substantially unchanged cross-section along longitudinal axis thereof in Figs. 1, 5 and 6.

With regard to claim 4, Maus et al. discloses the body comprising at least one first section (A) that is provided with a plurality of gas flow passages (3) that extend essentially parallel to one each other in Figs. 1, 2, 5 and 6 and col. 6, lines 4-42.

With regard to claim 5, Maus et al. discloses the body comprising at least one second section (B) that is provided with a plurality of gas flow passages (3) that extend essentially parallel to each other, said plurality of gas flow passages per cross section area unit differs between the first section and the second section in Figs. 1, 3, 5 and 6 and col. 6, lines 4-42.

With regard to claim 6, Maus et al. discloses the first and second sections being arranged so that at least a portion of the walls that define the gas flow passages in the first section form extensions of at least a portion of the walls that define the gas flow passages in the second section in Fig. 6.

With regard to claim 7, Maus et al. teaches the body being arranged to permit heat exchange between gas flows in adjacent gas flow passages since adjacent passages are arranged parallel to one another and separated only by a thin wall. See Figs. 1-6, col. 2, lines 32-42 and col. 6, line 1 to col. 7, line 14.

With regard to claims 22, 27 and 32, Maus et al. discloses the device being adapted to purify the exhaust gas from a mobile internal combustion engine and at least a part of the surfaces in the body that are in contact with the gas flow being coated with a catalyst material in col. 1, lines 10-13 and col. 7, lines 36-44.

With regard to claim 31, Maus et al. discloses the body having a general shape of a circular cylinder in Fig. 1.

14. Claims 1-7, 22, 27, 28, 31 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Hervert et al.

With regard to claim 1, Hervert et al. discloses a device for treatment of a gas flow, said device comprising at least one body (30) configured to cause a conversion in the composition of a gas flow (using catalysts), said body having a modular construction comprising a plurality of sections (12-16), each with different internal structures that allow gas to flow therethrough, said sections being arranged so that at least a portion of the gas flows through at least two sections with different internal structures during operation of the device in Figs. 1-3, col. 3, line 28 to col. 6, line 16.

With regard to claims 2 and 28, Hervert et al. discloses a plurality of the sections (12-16) exhibiting a substantially unchanged cross-section along longitudinal axis thereof in Fig. 1 and col. 4, lines 32-42.

With regard to claim 3, Hervert et al. discloses the sections (12-16) substantially being made out of a ceramic material in col. 4, lines 43-52.

With regard to claim 4, Hervert et al. discloses the body comprising at least one first section (12) that is provided with a plurality of gas flow passages (31) that extend essentially parallel to one each other in Fig. 1 and col. 3, lines 46-48.

With regard to claim 5, Hervert et al. discloses the body comprising at least one second section (13) that is provided with a plurality of gas flow passages (32) that extend essentially parallel to each other, said plurality of gas

flow passages per cross section area unit differs between the first section and the second section in Fig. 1 and col. 3, line 46 to col. 4, line 31.

With regard to claim 6, Hervert et al. discloses the first and second sections being arranged so that at least a portion of the walls that define the gas flow passages in the first section form extensions of at least a portion of the walls that define the gas flow passages in the second section in Fig. 1.

With regard to claim 7, Hervert et al. teaches the body being arranged to permit heat exchange between gas flows in adjacent gas flow passages since adjacent passages are arranged parallel to one another and separated only by a thin wall. See Figs. 1-3 and col. 3, line 46 to col. 4, line 31.

With regard to claims 22, 27 and 32, Hervert et al. discloses the device being adapted to purify the exhaust gas from a mobile internal combustion engine and at least a part of the surfaces in the body that are in contact with the gas flow being coated with a catalyst material in col. 2, lines 11-14 and col. 3, line 28 to col. 4, line 2.

With regard to claim 31, Hervert et al. discloses the body having a general shape of a circular cylinder in Fig. 1.

15. Claims 1-4, 7-12, 22-25 and 27-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Mieville et al.

With regard to claim 1, Mieville et al. discloses a device for treatment of a gas flow, said device comprising at least one body (120) configured to cause a conversion in the composition of a gas flow (using catalysts and adsorbents), said body having a modular construction comprising a plurality of sections (122,126), each with different internal structures that allow gas to flow therethrough, said sections being arranged so that at least a portion of the gas flows through at least two sections with different internal structures (different lengths and different active coatings) during operation of the device in Figs. 7-9 and col. 6, line 37 to col. 8, line 61.

With regard to claims 2 and 28, Mieville et al. discloses a plurality of the sections (122, 126) exhibiting a substantially unchanged cross-section along longitudinal axis thereof in Figs. 7 and 8.

With regard to claim 3, Mieville et al. discloses the sections (122, 126) substantially being made out of a ceramic material in col. 10, lines 27-46.

With regard to claim 4, Mieville et al. discloses the body comprising at least one first section (126) that is provided with a plurality of gas flow passages

(128,128') that extend essentially parallel to one each other in Figs. 7 and 8 and col. 7, lines 23-40.

With regard to claim 7, Mieville et al. discloses the body being arranged to permit heat exchange between gas flows in adjacent gas flow passages (124,124') in col. 7, lines 1-16.

With regard to claim 8, Mieville et al. discloses the device being arranged so that the main direction of the gas flow in one gas flow passage (124,128) is essentially the opposite of the main direction of the gas flow in an adjacent gas flow passage (124',128') during operation of the device in Figs. 7-9 and col. 7, lines 1-40.

With regard to claims 9 and 10, Mieville et al. discloses the gas flow passages forming inlet passages (124,128) that are intended for incoming gas flow and outlet passages (124',128') that are intended for an outgoing gas flow, and a reversing zone comprising a reversing chamber (formed by surface 138 of bottom plate 132) is arranged in connection with the first section (126) so that gas entering said reversing zone from the inlet passages is permitted to change direction and flow back through the outlet passages in Figs. 7-9 and col. 6, line 51 to col. 7, line 47.

With regard to claim 11, Mieville et al. discloses the body comprising at least one second section (122) that is provided with at least one first opening (the inlet openings in channels 124) for the entrance of an incoming gas flow, wherein the second section is arranged in connection to at least one first section (126) such that the second section is adapted to distribute the incoming gas flow to the inlet passages (128) in Figs. 7-9 and col. 6, line 37 to col. 8, line 61.

With regard to claim 12, Mieville et al. discloses the second section being provided with at least one second opening (the outlet openings in channels 124') for the exit of an outgoing gas flow, the second section being adapted to lead the outgoing gas flow out from the outlet passages (128') in Figs. 7-9 and col. 6, line 37 to col. 8, line 61.

With regard to claims 22, 23, 27 and 32, Mieville et al. discloses the device being adapted to purify the exhaust gas from a mobile internal combustion engine, at least a part of the surfaces in the body that are in contact with the gas flow (walls forming channels 128,128') being coated with a catalyst material, and at least a part of the surfaces in the body that are in contact with the gas flow (walls forming channels 124,124') being coated with an adsorption/desorption agent in col. 7, line 1 to col. 8, line 61.

With regard to claims 24 and 25, Mieville et al. discloses the device comprising means for controlling the temperature of the gas flow in the body, the

means comprising a system for controlling the composition of the incoming gas flow, wherein the system for controlling the composition of the incoming gas flow comprises an arrangement (conduit 150) for introduction of oxidizing species (oxygen) into the incoming gas flow in Fig. 8 and col. 11, lines 26-33. The Examiner notes that the system controls the composition of the incoming gas flow since it provides supplemental oxygen to the gas flow that enters the device, even though the oxygen is provided subsequent to the gas flow passing through the adsorption portion of the body. In other words, the phrase "a system for controlling the composition of the incoming gas flow" in lines 5-6 of claim 24 has not been interpreted as limiting the system to controlling the composition of the incoming gas flow prior to the incoming gas flow entering the device.

With regard to claims 29-30, Mieville et al. discloses the ceramic sections (122,126) being joined together by sintering a cement in col. 11, lines 9-13.

16. Claims 1-4, 7, 22, 24-28, 31 and 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Matros et al.

With regard to claim 1, Matros et al. discloses a device for treatment of a gas flow, said device comprising at least one body (10) configured to cause a conversion in the composition of a gas flow (using catalysts and a filter), said body having a modular construction comprising a plurality of sections (18H,38), each with different internal structures that allow gas to flow therethrough, said

sections being arranged so that at least a portion of the gas flows through at least two sections with different internal structures during operation of the device in Figs. 1 and 2 and col. 4, line 13 to col. 9, line 48.

With regard to claims 2 and 28, Matros et al. discloses a plurality of the sections (18H,38) exhibiting a substantially unchanged cross-section along longitudinal axis thereof in Fig. 2, col. 4, lines 35-46, and col. 8, lines 32-41.

With regard to claim 3, Matros et al. discloses the sections (18H,38) substantially being made out of a ceramic material in col. 4, lines 25-46, and col. 8, lines 32-41.

With regard to claim 4, Matros et al. discloses the body comprising at least one first section (18H) that is provided with a plurality of gas flow passages (not numbered) that extend essentially parallel to one each other in Fig. 2 and col. 4, lines 25-46.

With regard to claim 7, Matros et al. teaches the body being arranged to permit heat exchange between gas flows in adjacent gas flow passages since adjacent passages are arranged parallel to one another and separated only by a thin wall. See Figs. 1 and 2, col. 4, lines 25-46, and col. 8, lines 32-41.

With regard to claims 22, 27 and 32, Matros et al. discloses the device being adapted to purify the exhaust gas from a mobile internal combustion engine and at least a part of the surfaces in the body that are in contact with the gas flow (the walls of catalyst bed 18H) being coated with a catalyst material in col. 4, line 12 to col. 5, line 4.

With regard to claims 24 and 25, Matros et al. discloses the device comprising means for controlling the temperature of the gas flow in the body, the means comprising a heat generator arranged in or in connection to the body (see col. 6, lines 33-38 and col. 8, lines 60-62) and/or a system for controlling the composition of the incoming gas flow, wherein the system for controlling the composition of the incoming gas flow comprises an arrangement (reductant delivery system 30) for introduction of oxidizable species (hydrocarbons) into the incoming gas flow in col. 4, line 14 to col. 8, line 62.

With regard to claim 26, Matros et al. discloses the device being arranged in connection to a combustion engine, wherein the system for controlling the composition of the incoming gas flow comprises an arrangement (controller 28) for controlling the operation of the combustion engine, which operation in turn affects the composition of the incoming gas flow in col. 6, line 27 to col. 8, line 59.

With regard to claim 31, Matros et al. discloses the body having a general shape of a circular cylinder in Figs. 1 and 2.

***Allowable Subject Matter***

17. Claim 15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

18. Claims 13, 14 and 16-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

19. The following is a statement of reasons for the indication of allowable subject matter:

With regard to claims 13-16, Mieville et al. discloses the second section (122) comprising a straight wall structure (the walls forming channels 124 and 124') forming first channels (124) to which the incoming gas flow is fed, and a plurality of second channels (124') adjacent the first channels for receiving the outgoing gas flow in Figs. 7-9 and col. 6, line 37 to col. 8, line 61.

With regard to claims 13-15, the prior art made of record does not teach or fairly suggest the device of claim 11 wherein the second section comprises a wall

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structure forming at least one first channel to which the incoming gas flow is fed, and a plurality of second channels that extend from said first channels and which second channels are open to said inlet passages.

With regard to claim 16, the prior art made of record does not teach or fairly suggest the device of claim 12 wherein the second section comprises a zigzag shaped wall structure forming a first and a second set of channels, one set on each side of said zigzag shaped structure, wherein said first set of channels are open to the inlet passages and the second set of channels are open to said outlet passages, and wherein the incoming gas flow is fed to the first set of channels.

With regard to claims 17 and 18, Mieville et al. discloses the first section (126) and second section (122) being formed as continuous honeycomb monoliths devoid of internal cavities in Figs. 7-9 and col. 6, line 37 to col. 8, line 61.

With regard to claim 17, the prior art made of record does not teach or fairly suggest the device of claim 9 wherein the first section comprises an internal cavity that extends substantially parallel to said gas flow passages, wherein the gas flow passages are distributed around said internal cavity.

With regard to claim 18, the prior art made of record does not teach or fairly suggest the device of claim 11 wherein the second section comprises an internal cavity, and that at least one first or second opening is directed towards said cavity so that gas flows via said cavity during operation of the device. The

Examiner notes that the phrase "at least one first or second opening" has been interpreted as being at least one first or second opening formed in the second section.

With regard to claim 19, Maus et al., Hervert et al. and Matros et al. disclose the body having a cylindrical shape (see above). However, Maus et al., Hervert et al., Mieville et al and Matros et al. discloses the body comprising sections formed as continuous honeycomb monoliths devoid of internal cavities.

The prior art made of record does not teach or fairly suggest the device of claim 7 wherein the body comprises an internal cavity that extends in the longitudinal direction of the body, and wherein the device is arranged in such a way that at least one of incoming gas enters the body via said internal cavity and outgoing gas exits the body via said internal cavity during operation of the device.

With regard to claims 20 and 21, Mieville et al. does not disclose the body comprising at least one third section provided with walls that are permeable to the gas flow, said third section being primarily adapted to remove particulates from the gas.

Matros et al. discloses a similar device comprising a body (10) comprising a section (38) provided with walls that are permeable to the gas flow, said section being primarily adapted to remove particulates from the gas, wherein the section is arranged adjacent to and downstream from a first section (18H), wherein the permeable walls essentially define an extension of the gas flow passages in the

first section, the inlet passages being closed on the downstream side so that gas is forced to flow through the permeable walls during operation of the device.

However, there is no motivation to incorporate the filter section of Matros et al. into the device of Mieville et al. since the resultant device would not operate as intended. Specifically, the filter section of Matros et al. is an axial flow honeycomb wherein alternate channels are plugged at their upstream or downstream sides. If the filter section of Matros et al. were incorporated into the device of Mieville et al., the gas flow would be incapable of reversing its flow direction since the plugs on the upstream side of the filter section would prevent gas flow through the outlet passages of Mieville et al.

The prior art made of record does not teach or fairly suggest the device of claim 9 wherein the body comprising at least one third section provided with walls that are permeable to the gas flow, said third section being primarily adapted to remove particulates from the gas.

### ***Conclusion***

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Akama et al., Frederiksen et al., Mayer, Mathes et al., Chandler et al., Lachman et al., Topsøe, Aitta et al. and Swars references disclose similar devices.

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21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (571) 272-1157. The examiner can normally be reached on Monday - Friday (9:00 AM to 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason M. Greene  
Examiner  
Art Unit 1724

  
8/3/05

jmg  
August 3, 2005